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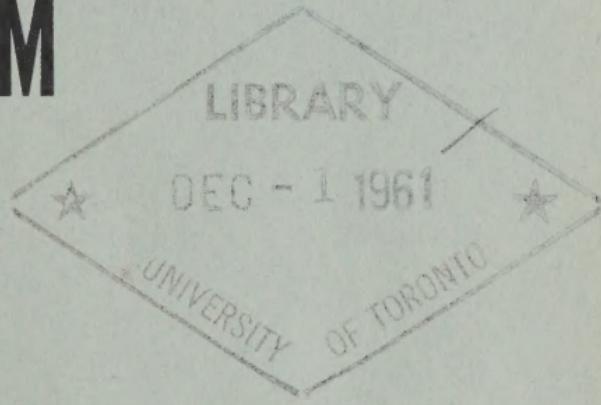
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WATER DEVELOPMENT PROGRAM



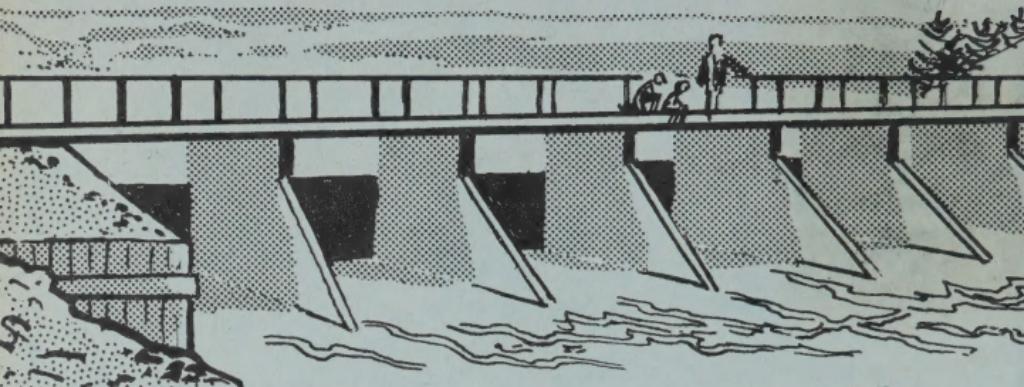
- Farm Dugouts
- Stockwatering Dams
- Community Water Conservation

"The thirsty earth soaks up the rain,
And drinks, and gapes for drink again."

—Abraham Cowley

Prairie farms Rehabilitation Admin.

CANADA DEPARTMENT OF AGRICULTURE



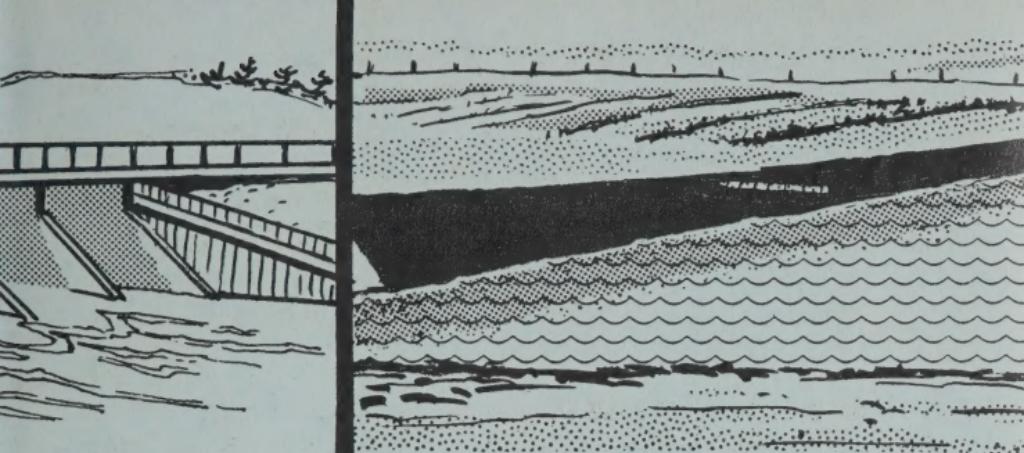
INTRODUCTION

"YOU never miss the water till the well runs dry," is a maxim regarded with respect and caution on the prairies. Far too many prairie farmers have watched their crops wither, their cattle sold at distress prices, and their families suffer because of a lack of water when they needed it most.

This was particularly true in the 1930's when drought-seared prairie farm land cracked wide open for want of moisture. The plight of the farmers at that time prompted the federal government to take action. As a result the Prairie Farm Rehabilitation Act was passed in 1935 and the Prairie Farm Rehabilitation Administration became a new and important branch of the Canada Department of Agriculture. Its primary purpose was to carry out a long-term water conservation and land utilization program.

Proof that considerable progress has been made is the existence today of more than 70,000 farm dug-outs, stockwatering dams and small irrigation projects—almost all built with PFRA engineering and financial assistance. In addition, some 750 community water development programs and a number of huge irrigation projects have been undertaken with the help and supervision of PFRA.

PFRA was born of the drought of the 1930's. At that time, and for the next 25 years, assistance provided under the Act was available to farmers living in a clearly defined area in the southern and central regions of the three prairie provinces. When drought struck again in 1961, the government moved quickly to extend the boundaries to include all the settled farm-



ing area in Manitoba, Saskatchewan and Alberta. This means that there will be a considerable increase in the number of water conservation projects undertaken or supported by the federal government through PFRA in the years ahead.

Conservation of this water is particularly important because of the steadily increasing demand. Extension of rural electrification has stepped up the water requirements on farms and in rural communities. In other words, the development of these water storage facilities by PFRA is contributing to the modernizing of prairie homes and farming operations.

KINDS OF PROJECTS AVAILABLE

A "water development project" may be an individual farm or neighbor dugout or stockwatering dam, a small community or municipal project, or a larger water storage project serving an entire area with water for urban domestic and industrial use as well as farming.

Through its water development program, PFRA provides individual farmers or communities with engineering services and financial help when an application for such assistance has been approved.

Other free services provided include preliminary calls by PFRA representatives to discuss the application for aid, final and miscellaneous inspections of the works agreed upon, the completion of surveys and the preparation of plans.

PFRA supplies all engineering services and assumes all construction costs of development of community water conservation projects. Major conservation or



irrigation works usually are undertaken on a cost-sharing agreement between the federal government and the government of the province concerned—PFRA assumes responsibility for the supervision, construction and development of the main works, while the province handles the distribution system.

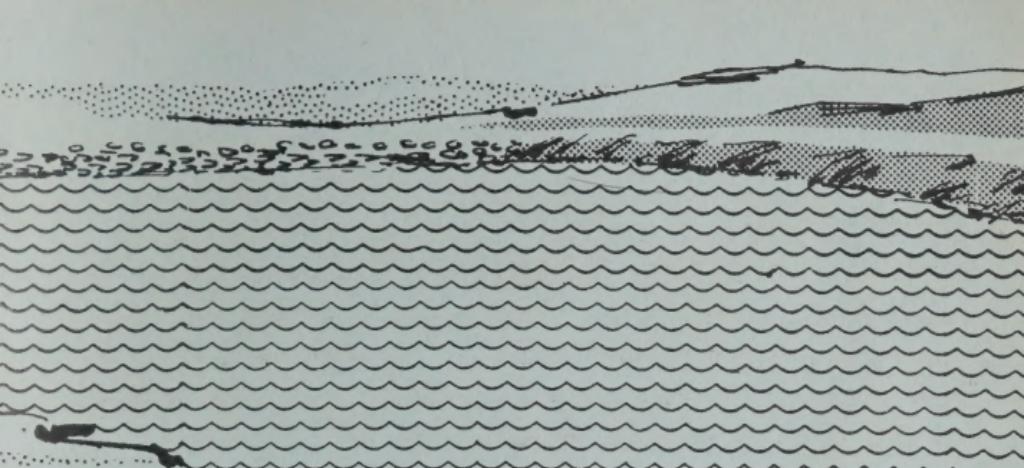
On small, or “farm projects,” financial assistance contributed by PFRA usually amounts to about half the total cost of construction.

FINANCIAL ASSISTANCE VARIES

Just how much financial assistance can a farmer expect from PFRA towards construction of an approved farm reservoir built to specified standards? It depends upon the size of the project.

The basis is 7 cents per cubic yard of earth excavated and 25 cents per cubic yard for rock and field stone used to protect the earthwork. The amount of financial assistance paid must not exceed \$250 for dugouts and \$300 for dams. When two or more neighbors get together to cooperate on construction of a larger reservoir, the amount of financial assistance can be raised to a maximum of \$1,000. In addition, PFRA will pay up to \$600 towards development of individual irrigation schemes.





PFRA will also contribute financially toward the cost of repairing small projects within a year of their completion, provided the repairs are required as a result of flood damage or other natural causes. This one-year period can be extended if the reservoir has not been filled to capacity due to limited runoff.

Financial assistance available for repairs to a dug-out or stockwatering dam is worked out on the basis of 7 cents per cubic yard for earth and 25 cents per cubic yard for rock work and cost of materials to a maximum not exceeding half of the total financial assistance previously paid by PFRA.

Finally, PFRA will help farmers who wish to enlarge or improve existing small projects to increase their capacity or make them safer. In such cases the grant must not be in excess of the maximum amount allowed for construction of a new project.

Since the inception of PFRA in 1935, the federal government has contributed more than \$9 million towards the \$22½ million spent by prairie farmers for conserving runoff water. More than 70,000 such projects will have been constructed by the end of 1961.

COMMUNITY WATER PROJECTS

Community projects utilizing the waters of larger watersheds and designed to serve the needs of groups of farmers are constructed with engineering and financial help of PFRA.

On such projects, PFRA supplies all engineering services and assumes all the construction costs. Most

of the construction is centered on rivers, coulees or ravines known to be good sites for damming and impounding water, but at times PFRA will undertake excavation of king-size community dugouts capable of holding up to 1,000,000 gallons of water. PFRA has also helped many communities in the restoration and improvement of lakes and other natural bodies of water that tend to dry up during periods of drought. By installing control works, or by diverting additional drainage into them, many such lakes have been turned into attractive and inexpensive reservoirs serving an entire community.

During the fiscal year ended March 31, 1960, some 44 new community projects advanced to the construction stage while work continued on another 22 carried over from the previous year. Since 1935, PFRA has supervised construction and footed most of the bills for 748 community water development projects.

Applicants for community or municipal projects are required to obtain control of the necessary right-of-way to make the project available to the community.

LARGER PROJECTS

Larger community projects, including stockwatering and irrigation schemes, are accepted by PFRA only after a complete survey has been made to determine the agricultural and engineering feasibility of the project.

Such jobs, many of them huge in scope, are carried out by agreement between the federal government and the provincial government concerned. More than 100 of them have been completed since 1935.

A considerable number of irrigation projects built by PFRA have helped farmers reduce the hazards of farming in semi-arid regions of the prairie provinces.

There are many examples of this, including the Val Marie, West Val Marie, Consul, Eastend, Maple Creek and Swift Current projects in the low rainfall area of southwestern Saskatchewan and a series of storage reservoirs on rivers and streams originating in the

Cypress Hills where snow melt is impounded and made available for irrigation purposes.

The irrigated lands associated with these projects are divided into 40- to 60-acre plots and made available to farmers in the surrounding areas for the production of livestock feed. All such projects are supervised by PFRA.

HOW TO GET HELP

Since the expansion of the borders of PFRA territory during the 1961 drought a considerable number of farmers not previously eligible now qualify for help—both engineering and financial—in building a reservoir on their farm or in their community. How do they go about applying for this help?

Applications for PFRA assistance must be submitted on a form provided for the purpose to: The Director, Prairie Farm Rehabilitation Administration, Motherwell Building, Regina, Sask., or to their nearest PFRA representative.

Construction of all projects except dugouts must be authorized under the Water Rights Act of the province in which the farm or community making the application is located. Applications for water rights must be submitted as well as applications for PFRA assistance.

An applicant for financial assistance must advise PFRA of the date upon which actual construction of the project will begin. If possible, the start-of-construction-date should be stated in the application for assistance but where this is not possible the applicant must notify PFRA of the date by letter or other means not more than 30 days before work commences.

All projects must be constructed according to specifications and completed to conform with filed plans.

PFRA acceptance of any application for financial assistance is conditional upon the project being constructed satisfactorily in every respect. Acceptance is not final until the completed project has been inspected and approved by PFRA inspection officers.



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Tips on Planning a Dugout

The most dependable source of water for a farm dugout or stockwatering dam is snow. Tree belts, snow fences and buildings all help trap water for your reservoir.

A good farm reservoir should have a small surface area to reduce losses from evaporation, and a depth of at least 12 to 15 feet.

A farm dugout 165 to 200 feet in length, 65 feet in width and 12 feet deep will hold from 400,000 to 550,000 gallons.

The runoff from at least 25 acres of prairie field is considered to be the minimum to maintain a permanent supply of water in a farm dugout.

It is advisable to drill test holes with an auger on the dugout site before excavation begins to ensure that the soil contains enough clay to prevent excessive seepage.

Farm reservoirs should be located so that they cannot be contaminated by barnyard or other sources.

It is advisable to install a filter in all dugouts where the water is to be used for household as well as agricultural purposes.

Earth removed when excavating a dugout should be smoothed down and seeded to grass.